FILE 'USPAT' ENTERED AT 12:23:23 ON 06 DEC 96

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  *              W E L C O M E   T O   T H E                *
  *         U. S.   P A T E N T   T E X T   F I L E         *
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=> s b19
L1          458 B19

=> s parvovirus
L2          168 PARVOVIRUS

=> s parvo?
L3          308 PARVO?

=> s l1(p)l3
L4           13 L1(P)L3

=> d 1-13
```

1. 5,578,736, Nov. 26, 1996, Compounds for the photo-decontamination of pathogens in blood; Susan Wollowitz, et al., 549/282 [IMAGE AVAILABLE]

2. 5,578,444, Nov. 26, 1996, Sequence-directed DNA-binding molecules compositions and methods; Cynthia A. Edwards, et al., 435/6, 7.23; 536/23.1; 935/76, 77 [IMAGE AVAILABLE]

3. 5,556,993, Sep. 17, 1996, Compounds for the photodecontamination of pathogens in blood; Susan Wollowitz, et al., 549/282 [IMAGE AVAILABLE]

4. 5,552,309, Sep. 3, 1996, Use of polyols for improving the introduction of genetic material into cells; Keith L. March, 435/172.3; 424/93.1, 93.2, 426; 435/235.1, 240.2, 320.1; 514/44; 935/57 [IMAGE AVAILABLE]

5. 5,518,901, May 21, 1996, Methods for adapting nucleic acid for detection, sequencing, and cloning using exonuclease; James J. Murtagh, 435/91.2, 91.5 [IMAGE AVAILABLE]

6. 5,508,186, Apr. 16, 1996, **B19** **parvovirus** capsids; Neal S. Young, et al., 435/235.1; 424/233.1; 435/5, 236 [IMAGE AVAILABLE]

7. 5,449,608, Sep. 12, 1995, **Parvovirus** **B19** receptor and **parvovirus** **B19** detection; Neal S. Young, et al., 435/7.2, 5, 235.1 [IMAGE AVAILABLE]

8. 5,436,127, Jul. 25, 1995, Epitope-related peptides of human parvovirus; Ken Yahata, et al., 435/5; 530/326, 826 [IMAGE AVAILABLE]

9. 5,399,719, Mar. 21, 1995, Compounds for the photodecontamination of pathogens in blood; Susan Wollowitz, et al., 549/282 [IMAGE AVAILABLE]

10. 5,354,678, Oct. 11, 1994, Production of recombinant adeno-associated virus vectors; Jane S. Lebkowski, et al., 435/172.3, 235.1, 240.2, 320.1; 935/32, 70, 71 [IMAGE AVAILABLE]

11. 5,254,572, Oct. 19, 1993, Method and composition for supplementing vitamin B6 where the PN-PLP pathway is disturbed; Willem J. Serfontein, 514/345, 351 [IMAGE AVAILABLE]

12. 5,252,479, Oct. 12, 1993, Safe vector for gene therapy; Arun Srivastava, 435/235.1, 240.2, 320.1 [IMAGE AVAILABLE]

13. 5,252,348, Oct. 12, 1993, Artificial viral envelopes; Hans Schreier, et al., 424/450; 264/4.1; 424/196.11, 208.1, 211.1, 812; 436/829 [IMAGE AVAILABLE]

(FILE 'USPAT' ENTERED AT 12:23:23 ON 06 DEC 96)

```
L1          458 S B19
L2          168 S PARVOVIRUS
L3          308 S PARVO?
L4           13 S L1(P)L3
L5          745 S VP2 OR CAPSID

=> s l5(p)l3
L6           21 L5(P)L3

=> d 1-21
```

1. 5,510,256, Apr. 23, 1996, Eliminating internal initiation of soluble CD4 gene; Richard J. Kirschner, et al., 435/172.3, 69.1, 70.1, 252.3, 320.1; 536/23.5, 24.1; 935/22, 39, 44, 73 [IMAGE AVAILABLE]

2. 5,508,186, Apr. 16, 1996, B19 parvovirus capsids; Neal S. Young, et al., 435/235.1; 424/233.1; 435/5, 236 [IMAGE AVAILABLE]

3. 5,506,128, Apr. 9, 1996, Recombinant infectious bovine rhinotracheitis virus; Mark D. Cochran, et al., 435/235.1; 424/93.2; 435/320.1; 536/23.72 [IMAGE AVAILABLE]

4. 5,498,413, Mar. 12, 1996, Recombinant subunit vaccine against porcine parvovirus; Jose I. Casal Alvarez, et al., 424/233.1, 204.1, 818; 435/69.3, 320.1; 530/350, 826 [IMAGE AVAILABLE]

5. 5,494,807, Feb. 27, 1996, NYVAC vaccinia virus recombinants comprising heterologous inserts; Enzo Paoletti, et al., 435/69.3; 424/199.1, 204.1, 205.1, 218.1, 224.1, 227.1, 229.1, 230.1, 231.1, 232.1, 239.1; 435/172.3, 320.1; 514/2; 530/350, 826 [IMAGE AVAILABLE]

6. 5,449,608, Sep. 12, 1995, Parvovirus B19 receptor and parvovirus B19 detection; Neal S. Young, et al., 435/7.2, 5, 235.1 [IMAGE AVAILABLE]

7. 5,437,951, Aug. 1, 1995, Self-assembling recombinant papillomavirus capsid proteins; Douglas R. Lowy, et al., 435/69.1, 252.3, 320.1; 530/350, 403; 536/23.72 [IMAGE AVAILABLE]

8. 5,436,146, Jul. 25, 1995, Helper-free stocks of recombinant adeno-associated virus vectors; Thomas E. Shenk, et al., 435/172.3, 91.4, 235.1, 240.2, 320.1; 536/23.72 [IMAGE AVAILABLE]

9. 5,420,026, May 30, 1995, Self-assembling replication defective hybrid virus particles; Lendon Payne, 435/172.3; 424/202.1, 208.1, 229.1; 435/235.1, 236, 240.2, 320.1; 930/221, 224; 935/32, 34, 57, 70 [IMAGE AVAILABLE]

10. 5,382,425, Jan. 17, 1995, Recombinant swinepox virus; Mark D. Cochran, et al., 435/69.1, 69.3, 172.3, 235.1, 240.2, 320.1; 530/350; 536/23.72; 935/9, 32, 36, 57, 63, 70 [IMAGE AVAILABLE]

11. 5,302,517, Apr. 12, 1994, Method of controlling the expression of a gene in a cell culture, cell culture vector used in the method and method of making the vector; Solon L. Rhode, III, 435/69.1, 172.3, 240.2; 935/11, 33, 34 [IMAGE AVAILABLE]

12. 5,223,424, Jun. 29, 1993, Attenuated herpesviruses and herpesviruses which include foreign DNA encoding an amino acid sequence; Mark D. Cochran, et al., 435/236, 235.1, 320.1 [IMAGE AVAILABLE]

13. 5,210,035, May 11, 1993, Non-reventing live vaccines; Bruce A. D. Stocker, 424/235.1, 234.1, 249.1, 253.1, 255.1, 256.1, 258.1; 435/172.1, 172.3, 245, 252.3, 879; 935/1, 9, 31, 58, 65, 72 [IMAGE AVAILABLE]

14. 5,077,044, Dec. 31, 1991, Novel non-reverting shigella live vaccines; Bruce A. D. Stocker, 424/235.1, 234.1; 435/34, 172.3, 252.1, 252.3; 935/55, 72 [IMAGE AVAILABLE]

15. 5,047,237, Sep. 10, 1991, Attenuated pseudorabies virus having a deletion of at least a portion of a gene encoding an antigenic, nonessential protein, vaccine containing same and methods of identifying animals vaccinated with the vaccine; Mark D. Cochran, 424/205.1, 229.1; 435/172.3, 236; 436/518; 935/65, 81 [IMAGE AVAILABLE]

16. 4,999,296, Mar. 12, 1991, Thymidine kinase negative insertion mutants of pseudorabies virus and methods for the production of same; Malon Kit, et al., 435/235.1, 69.1, 70.1, 70.3, 172.1, 172.3, 320.1; 935/22, 23, 32, 52, 57, 63, 65 [IMAGE AVAILABLE]

17. 4,971,793, Nov. 20, 1990, Subunit canine parvovirus vaccine; Harry A. Wood, et al., 424/233.1, 199.1, 818 [IMAGE AVAILABLE]

18. 4,837,151, Jun. 6, 1989, Live vaccines comprising two mutations and foreign antigen; Bruce A. D. Stocker, 424/200.1, 235.1, 258.1; 435/172.1, 172.3, 245, 252.3, 879; 935/65, 72 [IMAGE AVAILABLE]

19. 4,303,645, Dec. 1, 1981, Modified living canine parvovirus vaccine; Leland E. Carmichael, et al., 424/233.1, 818; 435/235.1, 237 [IMAGE AVAILABLE]

20. 4,193,991, Mar. 18, 1980, Canine parvovirus vaccine; Max J. G. Appel, et al., 424/233.1, 818; 435/238 [IMAGE AVAILABLE]

21. 4,193,990, Mar. 18, 1980, Heterotypic canine parvovirus vaccine; Max J. G. Appel, et al., 424/233.1, 818 [IMAGE AVAILABLE]

?◂b 155

06dec96 10:22:54 User208669 Session B496.1
$0.03 0.001 Hrs File1
$0.03 Estimated cost File1
$0.03 Estimated cost this search
$0.03 Estimated total session cost 0.001 Hrs.

File 155:MEDLINE(R) 1966-1996/Dec W4
(c) format only 1996 Knight-Ridder Info
*File 155: MEDLINE updates delayed. See HELP DELAY 155.
?◂ds

Set	Items	Description
S1	1018	B19
S2	4255	PARVO?
S3	897	S1 AND S2
S4	6719112	PY<1991
S5	245	S3 AND S4
S6	36219	PY1988:1990
S7	1100147	PY=1988:1990
S8	55	S5 NOT S7

?◂s clon?

S9 170880 CLON?
?◂s fusion or recombinant?

50768 FUSION
100180 RECOMBINANT?
S10 135124 FUSION OR RECOMBINANT?
?◂s s5 and (s9 or s10)

245 S5
170880 S9
135124 S10
S11 25 S5 AND (S9 OR S10)
?◂t s8/7/10 21 24 41 42 44 49

8/7/10
DIALOG(R)File 155:MEDLINE(R)
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06444550 88089550
Detection of parvovirus B19 DNA, antigen, and particles in the human fetus.
Clewley JP; Cohen BJ; Field AM
Virus Reference Laboratory, Central Public Health Laboratory, London, England.
J Med Virol (UNITED STATES) Dec 1987, 23 (4) p367-76, ISSN 0146-6615

Journal Code: I9N
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Human parvovirus B19 commonly infects children, causing erythema infectiosum (fifth disease). However, there is a significant adult population which has not been exposed to the virus and, consequently, does not have protective antibody. Recent reports have associated B19 infection during pregnancy with fetal death, although normal outcome of pregnancy is more common. To characterise further the role of B19 infection in fetal deaths, a series of laboratory investigations has been undertaken on tissues obtained at autopsy. These have demonstrated the presence of virion-sized DNA by Southern blotting, viral antigen by radioimmunoassay, and viral particles by electron microscopy, all from tissues of hydrops fetalis. These data confirm that the human parvovirus B19 can cross the placenta and replicate in fetal tissues.

8/7/21
DIALOG(R)File 155:MEDLINE(R)

06298046 87272046

Productive infection by B19 parvovirus of human erythroid bone marrow cells in vitro.

Ozawa K; Kurtzman G; Young N

Blood (UNITED STATES) Aug 1987, 70 (2) p384-91, ISSN 0006-4971
Journal Code: A8G
Languages: ENGLISH
Document type: JOURNAL ARTICLE

B19 parvovirus, the cause of fifth disease and transient aplastic crisis, has been successfully propagated in suspension cultures of human erythroid bone marrow cells obtained from patients with sickle cell disease and stimulated by erythropoietin. B19 inoculation in vitro resulted in a marked decline in identifiable erythroid cells over seven to nine days of incubation. Characteristic giant early erythroid cells were seen on Wright's-Giemsa stain of infected cultures. By in situ hybridization, 30% to 40% of erythroblasts were infected at 48 hours; a similar proportion of cells showed B19 capsid protein by immunofluorescence. B19 DNA was present in erythroblasts but not in the leukocyte fraction of bone marrow. B19 replication, as determined by Southern analysis, and B19 encapsidation, as determined by sensitivity of isolated cell fractions to DNase I, were restricted to the nuclei. B19 DNA was detectable in the nuclei from infected cultures beginning at 18 hours and in the supernatant at 32 hours; B19 genome copy number was estimated at about 25,000 to 30,000/infected cell at 48 hours. Recovery of virus depended on the multiplicity of infection (moi); at low moi, approximately 200x input virus was recovered from total cultures and 50x from the culture supernatants. Virus released into the supernatant was as infectious or more infectious than virus obtained from sera of infected patients. Human erythroid bone marrow culture represents a safe in vitro system for the elucidation of the cellular and molecular biology of the pathogenic B19 parvovirus.

8/7/24
DIALOG(R)File 155:MEDLINE(R)

06280443 87254443
Characterization of capsid and noncapsid proteins of B19 parvovirus propagated in human erythroid bone marrow cell cultures.
Ozawa K; Young N
J Virol (UNITED STATES) Aug 1987, 61 (8) p2627-30, ISSN 0022-538X Journal Code: KCV
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The major capsid and noncapsid proteins of the pathogenic parvovirus B19, propagated in vitro, were detected by sodium dodecyl sulfate-polyacrylamide gel electrophoresis, immunoprecipitation, and immunoblot of the erythroid fraction of infected human bone marrow cell cultures. There were two capsid proteins of 58 kilodaltons (kDa; the major species) and 84 kDa (the minor species). Newly synthesized capsid viral proteins were present in the supernatants of infected cultures. The major noncapsid protein of 77 kDa was localized to the nucleus.

8/7/41
DIALOG(R)File 155:MEDLINE(R)

06062916 87036916
Identification of the major structural and nonstructural proteins encoded by human parvovirus B19 and mapping of their genes by procaryotic expression of isolated genomic fragments.
Cotmore SF; McKie VC; Anderson LJ; Astell CR; Tattersall P
J Virol (UNITED STATES) Nov 1986, 60 (2) p548-57, ISSN 0022-538X Journal Code: KCV
Contract/Grant No.: CA 29303; AI 21118
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Plasma from a child with homozygous sickle-cell disease, sampled during the early phase of an aplastic crisis, contained human parvovirus B19 virions. Plasma taken 10 days later (during the convalescent phase) contained both immunoglobulin M and immunoglobulin G antibodies directed against two viral polypeptides with apparent molecular weights of 83,000 and 58,000 which were present exclusively in the particulate fraction of the plasma taken during the acute phase. These two protein species comigrated at 110S on neutral sucrose velocity gradients with the B19 viral DNA and thus appear to constitute the viral capsid polypeptides. The B19 genome was molecularly cloned into a bacterial plasmid vector. Restriction endonuclease fragments of this cloned B19 genome were treated with BAL 31 and shotgun cloned into the open reading frame expression vector pJS413. Two expression constructs containing B19 sequences from different halves of the viral genome were obtained, which directed the synthesis, in bacteria,

of segments of virally encoded protein. These polypeptide fragments were then purified and used to immunize rabbits. Antibodies against a protein sequence specified between nucleotides 2897 and 3749 recognized both the 83- and 58-kilodalton capsid polypeptides in aplastic plasma taken during the acute phase and detected similar proteins in the tissues of a stillborn fetus which had been infected transplacentally with B19. Antibodies against a protein sequence encoded in the other half of the B19 genome (nucleotides 1072 through 2044) did not react specifically with any protein in plasma taken during the acute phase but recognized three nonstructural polypeptides of 71, 63, and 52 kilodaltons present in the liver and, at lower levels, in some other tissues of the transplacentally infected fetus.

8/7/42
DIALOG(R)File 155:MEDLINE(R)

06060182 87034182
Detection of antibodies and antigens of human parvovirus B19 by enzyme-linked immunosorbent assay.
Anderson LJ; Tsou C; Parker RA; Chorba TL; Wulff H; Tattersall P; Mortimer PP
J Clin Microbiol (UNITED STATES) Oct 1986, 24 (4) p522-6, ISSN 0095-1137 Journal Code: HSH
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Acute-phase serum from a patient with aplastic crisis provided sufficient human parvovirus B19 to make a monoclonal antibody against B19 and to develop antigen and immunoglobulin M (IgM) and IgG antibody detection enzyme-linked immunosorbent assays (ELISAs). The indirect capture antibody method was used for all three assays. Antigen was detected in 8 of 29 sera drawn within 2 days of onset of illness from patients with aplastic crisis. These sera had high titers of virus by electron microscopy and DNA hybridization and had no detectable B19 antibody. Antigen was not detected in serum specimens that had low titers of B19 DNA and had B19 antibody. With the IgM ELISA, we detected B19 IgM in over 85% of clinical cases of aplastic crisis and fifth disease and less than 2% of controls. The prevalence of B19 IgG antibodies increased with age. Approximately 2% of children less than 5 years of age and 49% of adults greater than 20 years of age had B19 IgG antibodies. The B19 antibody ELISAs are sensitive and specific tests to detect B19 infections.

8/7/44
DIALOG(R)File 155:MEDLINE(R)

05988428 86289428
Replication of the B19 parvovirus in human bone marrow cell cultures.
Ozawa K; Kurtzman G; Young N
Science (UNITED STATES) Aug 22 1986, 233 (4766) p883-6, ISSN

0036-8075 Journal Code: UJ7
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The B19 parvovirus is responsible for at least three human diseases. The virus was successfully propagated in suspension cultures of human erythroid bone marrow from patients with hemolytic anemias; release of newly synthesized virus into the supernatants of infected cultures was observed. This culture system allowed study at a molecular level of events associated with the B19 life cycle. The B19 parvovirus replicated through high molecular weight intermediate forms, linked through a terminal hairpin structure. B19 replication in vitro was highly dependent on the erythropoietic content of cultures and on addition of the hormone erythropoietin.

8/7/49
DIALOG(R)File 155:MEDLINE(R)

05517569 85133569
Detection of human parvovirus using a molecularly cloned probe.
Clewley JP
J Med Virol (UNITED STATES) Feb 1985, 15 (2) p173-81, ISSN 0146-6615
Journal Code: I9N
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Half of the genomic DNA of the human parvovirus (B19) was cloned in the plasmid pBR322. The cloned DNA was used as a molecular probe for the detection of parvovirus in serum by means of a dot hybridization test. In an assay of 26 samples, the dot hybridization test was found to be of comparable sensitivity and to be as rapid as radioimmunoassay for viral antigen detection; it is potentially useful as a diagnostic test.
?◂t s11/7/23

11/7/23
DIALOG(R)File 155:MEDLINE(R)

06062916 87036916
Identification of the major structural and nonstructural proteins encoded by human parvovirus B19 and mapping of their genes by procaryotic expression of isolated genomic fragments.
Cotmore SF; McKie VC; Anderson LJ; Astell CR; Tattersall P
J Virol (UNITED STATES) Nov 1986, 60 (2) p548-57, ISSN 0022-538X
Journal Code: KCV
Contract/Grant No.: CA 29303; AI 21118
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Plasma from a child with homozygous sickle-cell disease, sampled during the early phase of an aplastic crisis, contained human parvovirus B19

virions. Plasma taken 10 days later (during the convalescent phase) contained both immunoglobulin M and immunoglobulin G antibodies directed against two viral polypeptides with apparent molecular weights of 83,000 and 58,000 which were present exclusively in the particulate fraction of the plasma taken during the acute phase. These two protein species comigrated at 110S on neutral sucrose velocity gradients with the B19 viral DNA and thus appear to constitute the viral capsid polypeptides. The B19 genome was molecularly cloned into a bacterial plasmid vector. Restriction endonuclease fragments of this cloned B19 genome were treated with BAL 31 and shotgun cloned into the open reading frame expression vector pJS413. Two expression constructs containing B19 sequences from different halves of the viral genome were obtained, which directed the synthesis, in bacteria, of segments of virally encoded protein. These polypeptide fragments were then purified and used to immunize rabbits. Antibodies against a protein sequence specified between nucleotides 2897 and 3749 recognized both the 83- and 58-kilodalton capsid polypeptides in aplastic plasma taken during the acute phase and detected similar proteins in the tissues of a stillborn fetus which had been infected transplacentally with B19. Antibodies against a protein sequence encoded in the other half of the B19 genome (nucleotides 1072 through 2044) did not react specifically with any protein in plasma taken during the acute phase but recognized three nonstructural polypeptides of 71, 63, and 52 kilodaltons present in the liver and, at lower levels, in some other tissues of the transplacentally infected fetus.
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Temp SearchSave "TB176" stored
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$0.00 80 Type(s) in Format 6
$1.36 8 Type(s) in Format 7
$1.36 88 Types
$5.86 Estimated cost File155
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$5.89 Estimated total session cost 0.151 Hrs.
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Reconnected in file 155 06dec96 10:43:43
File 416 has been temporarily closed...please use File 411.
Contact Customer Services if you have questions.

File 155:MEDLINE(R) 1966-1996/Dec W4
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Set Items Description
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?◂ds

Set Items Description
S1 1018 B19
S2 4255 PARVO?
S3 897 S1 AND S2
S4 6719112 PY<1991
S5 245 S3 AND S4
S6 36219 PY1988:1990
S7 1100147 PY=1988:1990
S8 55 S5 NOT S7
S9 170880 CLON?
S10 135124 FUSION OR RECOMBINANT?
S11 25 S5 AND (S9 OR S10)
?◂t s8/7/11 25 40

8/7/11
DIALOG(R)File 155:MEDLINE(R)

06416204 88061204
Structure and mapping of the DNA of human parvovirus B19.
Mori J; Beattie P; Melton DW; Cohen BJ; Clewley JP
Virus Reference Laboratory, Central Public Health Laboratory, London, U.K.
J Gen Virol (ENGLAND) Nov 1987, 68 (Pt 11) p2797-806, ISSN 0022-1317 Journal Code: I9B
Languages: ENGLISH
Document type: JOURNAL ARTICLE
DNA from human parvovirus B19 was prepared from infected serum and examined by electron microscopy. Double-stranded molecules were seen, often with characteristic 'fold-back' ends that were assumed to be due to the inverted terminal repeats of the genome DNA. This double-stranded DNA was mapped with 13 restriction enzymes. More than 40 isolates, including the virus from the original B19 serum, were compared. Although isolates could be grouped by this method, there was no correlation between a particular restriction endonuclease map and any of the several disease presentations of the virus.

8/7/25
DIALOG(R)File 155:MEDLINE(R)

06280416 87254416
Novel transcription map for the B19 (human) pathogenic parvovirus.
Ozawa K; Ayub J; Hao YS; Kurtzman G; Shimada T; Young N
J Virol (UNITED STATES) Aug 1987, 61 (8) p2395-406, ISSN 0022-538X Journal Code: KCV
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The B19 parvovirus, a small single-stranded DNA virus of 5.4 kilobases,

is pathogenic in humans. B19 has remarkable specificity for erythroid progenitor cells and has been propagated in vitro only with human erythroid bone marrow. Replication of viral DNA and the viral protein products of B19 appear similar to those of other animal parvoviruses. However, B19 transcription had unusual features in comparison with that in other animal parvoviruses. At least nine overlapping poly(A)+ transcripts were identified in infected cells; all but one contained large introns. B19 differed from other parvoviruses in the initiation of all transcripts at a strong left side promoter (p6) and the absence of a functional internal promoter; the presence of short 5' leader sequences of about 60 bases and very large introns for RNAs encoded by the right side of the genome; two separate transcription termination sites, in contrast to cotermination at the far right side of the genome for other parvoviruses; the probable utilization by three transcripts of a variant polyadenylation signal (ATTAAA or AATAAC) in the middle of the genome; and the abundance of two unique transcripts from the middle of the genome which did not code for capsid proteins. The unusual transcription map of B19 suggests that regulation of the relative abundance of transcripts occurs by splicing and termination-polyadenylation events rather than by promoter strength. In combination with the published nucleotide sequence, the novel transcription map separated the pathogenic B19 virus at a molecular level from other animal parvoviruses and human adeno-associated virus.

8/7/40
DIALOG(R)File 155:MEDLINE(R)

06087184 87061184
Complete nucleotide sequence and genome organization of bovine parvovirus.
Chen KC; Shull BC; Moses EA; Lederman M; Stout ER; Bates RC
J Virol (UNITED STATES) Dec 1986, 60 (3) p1085-97, ISSN 0022-538X
Journal Code: KCV
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We determined the complete nucleotide sequence of bovine parvovirus (BPV), an autonomous parvovirus. The sequence is 5,491 nucleotides long. The terminal regions contain nonidentical imperfect palindromic sequences of 150 and 121 nucleotides. In the plus strand, there are three large open reading frames (left ORF, mid ORF, and right ORF) with coding capacities of 729, 255, and 685 amino acids, respectively. As with all parvoviruses studied to date, the left ORF of BPV codes for the nonstructural protein NS-1 and the right ORF codes for the major parts of the three capsid proteins. The mid ORF probably encodes the major part of the nonstructural protein NP-1. There are promoterlike sequences at map units 4.5, 12.8, and 38.7 and polyadenylation signals at map units 61.6, 64.6, and 98.5. BPV has little DNA homology with the defective parvovirus AAV, with the human autonomous parvovirus B19, or with the other autonomous parvoviruses sequenced (canine parvovirus, feline panleukopenia virus, H-1, and minute virus of mice). Even though the overall DNA homology of BPV with other

parvoviruses is low, several small regions of high homology are observed when the amino acid sequences encoded by the left and right ORFs are compared. From these comparisons, it can be shown that the evolutionary relationship among the parvoviruses is B19 in equilibrium with AAV in equilibrium with BPV in equilibrium with MVM. The highly conserved amino acid sequences observed among all parvoviruses may be useful in the identification and detection of parvoviruses and in the design of a general parvovirus vaccine.

?◂s sequenc?

S12 360308 SEQUENC?

?◂ds

Set Items Description
S1 1018 B19
S2 4255 PARVO?
S3 897 S1 AND S2
S4 6719112 PY<1991
S5 245 S3 AND S4
S6 36219 PY1988:1990
S7 1100147 PY=1988:1990
S8 55 S5 NOT S7
S9 170880 CLON?
S10 135124 FUSION OR RECOMBINANT?
S11 25 S5 AND (S9 OR S10)
S12 360308 SEQUENC?

?◂s s5 and s12

245 S5
360308 S12
S13 29 S5 AND S12

?◂t s13/7/2 5 9 13 14 19 26

13/7/2
DIALOG(R)File 155:MEDLINE(R)

07554128 91073128
The production of human parvovirus capsid proteins in Escherichia coli and their potential as diagnostic antigens.
Rayment FB; Crosdale E; Morris DJ; Pattison JR; Talbot P; Clare JJ
Department of Molecular Biology, Wellcome Biotech, Beckenham, Kent, U.K.
J Gen Virol (ENGLAND) Nov 1990, 71 (Pt 11) p2665-72, ISSN 0022-1317
Journal Code: I9B
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We have expressed a number of polypeptides derived from the capsid proteins of the human parvovirus B19 in Escherichia coli. These include native VP1 (84K) and VP2 (58K) proteins and also fusions to

beta-galactosidase containing differing amounts of the amino terminus of the VP1/2 polypeptide. Although each of these was expressed at high levels and the majority were produced as full-length proteins, only one was soluble. This soluble polypeptide, p132, is a beta-galactosidase fusion protein that includes 145 amino acids from B19 which are entirely derived from the region unique to VP1. Despite containing such a small portion of VP1, which itself constitutes only 4% of total capsid protein, p132 reacted with all our known anti-B19 IgM-positive human serum samples. We conclude that this region contains epitopes which must be prominently exposed on the intact virus. We have demonstrated the use of this recombinant antigen in a simple diagnostic assay for B19-specific antibodies which can be used for initial screening of human serum samples. In a survey of 103 serum specimens, our ELISA positively identified all samples (19/19) which were positive by IgM antibody capture radioimmunoassay. The recombinant p132 antigen is efficiently produced and readily purified from E. coli, and its use as a diagnostic antigen should increase the availability of routine clinical testing for human parvovirus infection.

13/7/5
DIALOG(R)File 155:MEDLINE(R)

07505876 91024876
Molecular approaches for production of B19 antigen.
Clewley JP; Mori J; Turton J
PHLS Virus Reference Laboratory, Central Public Health Laboratory, London, U.K.
Behring Inst Mitt (GERMANY) Aug 1990, (85) p14-27, ISSN 0301-0457
Journal Code: 9KI
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Owing to the lack of a practical means of production of large quantities of virus in cell culture, present tests to screen for parvovirus antibody rely on the use of virus obtained from the sera of blood donors during the brief, intensely viraemic phase of acute infection (Cohen et al, 1983). Accordingly, antigen is scarce and testing for parvovirus antibody is confined to a few centres. Availability of recombinant antigen would make the test more widely available, and by circumventing the requirement for use of whole virus render the test safer (Cohen et al, 1988). Therefore, constructs of parvovirus DNA encompassing the region of the genome coding for the structural proteins in expression vectors with T7 or trc or tac promoters were made, and proteins produced by the resulting clones tested for their ability to react with B19 antibodies from human sera. Additionally, recombinant B19 DNA was used as a hybridization probe for virus in clinical specimens, and a sensitive polymerase chain reaction assay was investigated as a tool for parvovirus diagnosis.

13/7/9
DIALOG(R)File 155:MEDLINE(R)

07233542 90140542
A new peptide for human parvovirus B19 antibody detection.
Fridell E; Trojnar J; Wahren B
Department of Virology, National Bacteriological Laboratory, Stockholm, Sweden.
Scand J Infect Dis (SWEDEN) 1989, 21 (6) p597-603, ISSN 0036-5548 Journal Code: UCX
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A serological assay for human parvovirus B19 was developed. Linear overlapping synthetic peptides were synthesised according to parts of open reading frames 1 and 2. A region at the N-terminus of viral protein VP2 detected serological reactivity in indirect enzyme-linked immunosorbent assays for IgG and IgM with known seropositive human sera. A cyclized peptide taken from this region, amino acids 284-307, gave the best selective reactivity with seropositive and seronegative sera. The peptide assay appears suitable for further studies of B19 infections and their complications.

13/7/13
DIALOG(R)File 155:MEDLINE(R)

07139741 90046741
Construction of a recombinant human parvovirus B19: adeno-associated virus 2 (AAV) DNA inverted terminal repeats are functional in an AAV-B19 hybrid virus.
Srivastava CH; Samulski RJ; Lu L; Larsen SH; Srivastava A
Department of Medicine, Indiana University School of Medicine, Indianapolis 46202.
Proc Natl Acad Sci U S A (UNITED STATES) Oct 1989, 86 (20) p8078-82, ISSN 0027-8424 Journal Code: PV3
Contract/Grant No.: AI-25530; AI-26323; IT-AM-07519
Languages: ENGLISH
Document type: JOURNAL ARTICLE
To facilitate genetic analysis of the human pathogenic parvovirus B19, we constructed a hybrid B19 viral genome in which the defective B19 inverted terminal repeats were replaced with the full-length inverted terminal repeats from a nonpathogenic human parvovirus, the adeno-associated virus 2 (AAV). The hybrid AAV-B19 genome was rescued from a recombinant plasmid and then the DNA was replicated upon transfection into adenovirus 2-infected human KB cells in the presence of AAV genes coding for proteins required for AAV DNA replication (AAV-Rep proteins). In addition, in the presence of AAV genes coding for the viral capsid proteins (AAV-Cap proteins), the rescued/replicated hybrid AAV-B19 genomes were packed into mature AAV progeny virions, which were subsequently released into culture supernatants. The recombinant AAV-B19 progeny virions were infectious for normal human bone marrow cells and strongly suppressed erythropoiesis in

vitro. The availability of an infectious recombinant B19 virus should facilitate the mutational analysis of the viral genome, which, in turn, may yield information on individual viral gene functions in B19-induced pathogenesis. The hybrid AAV-B19 genome may also prove to be a useful vector for gene transfer in human bone marrow cells.

13/7/14
DIALOG(R)File 155:MEDLINE(R)

07114199 90021199
Transient expression of B19 parvovirus gene products in COS-7 cells transfected with B19-SV40 hybrid vectors.
Beard C; St Amand J; Astell CR
Department of Biochemistry, Faculty of Medicine, University of British Columbia, Vancouver, Canada.
Virology (UNITED STATES) Oct 1989, 172 (2) p659-64, ISSN 0042-6822 Journal Code: XEA
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Hybrid B19 parvovirus-SV40 origin vectors were transfected into COS-7 cells and replication of these plasmids studied. Plasmids that have a frameshift mutation within the nonstructural gene region replicated to high level (copy number approximately 10,000/transfected cell) although somewhat lower than pSVOd, the SV40 origin vector without B19 sequence (copy number approximately 100,000/transfected cell). However, hybrid B19 parvovirus-SV40 origin vectors that do not contain these frameshift mutations replicated to a much lower level (copy number approximately 1000/transfected cell). Although the hybrid vectors studied replicated at different efficiencies in COS-7 cells, they are transcribed at approximately the same level, resulting in RNA species that are indistinguishable from those seen in B19 virus-infected erythroid bone marrow cells. Western blot analysis demonstrated that the mRNAs are translated into polypeptides of the same size and, in the case of viral structural proteins, in same relative abundance as seen in a B19-infected clinical sample.

13/7/19
DIALOG(R)File 155:MEDLINE(R)

06628219 88273219
Translational regulation of B19 parvovirus capsid protein production by multiple upstream AUG triplets.
Ozawa K; Ayub J; Young N
Cell Biology Section, National Heart, Lung, and Blood Institute, Bethesda, Maryland 20892.
J Biol Chem (UNITED STATES) Aug 5 1988, 263 (22) p10922-6, ISSN 0021-9258 Journal Code: HIV

Languages: ENGLISH
Document type: JOURNAL ARTICLE
The B19 parvovirus produces two capsid proteins in strikingly different quantities (VP1 less than 4%, VP2 greater than 96%) from overlapping RNAs that are derived from the same transcription unit. Immediately upstream from the VP1 translation initiation site is an unusual sequence containing multiple ATG triplets. During RNA processing this sequence is spliced out of VP2 RNA. To test the regulatory role on translation of this sequence containing upstream AUGs, synthetic RNAs were produced in vitro by T7 RNA polymerase from various plasmid constructions. Translation of VP1 RNA was very inefficient compared to VP2 RNA in a cell-free system, indicating that capsid protein production was regulated at the level of translation. Removal of upstream AUG sequences from VP1 RNA greatly increased the efficiency of translation. Conversely, the addition of the same AUG-rich sequence upstream of the initiation site of VP2 decreased its translation. These data indicate that an upstream AUG-rich region acts as a negative regulatory element in the translational control of B19 capsid protein production.

13/7/26
DIALOG(R)File 155:MEDLINE(R)

06165990 87139990
Structural and functional homology of parvovirus and papovavirus polypeptides.
Astell CR; Mol CD; Anderson WF
J Gen Virol (ENGLAND) Mar 1987, 68 (Pt 3) p885-93, ISSN 0022-1317
Journal Code: I9B
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We have compared the sequences of the putative polypeptides of the human pathogenic B19 parvovirus with protein sequences in the National Bethesda Research Foundation Library, and have discovered a significant homology between a B19 parvovirus non-structural (NS) protein and the T antigens of polyomaviruses and simian virus 40 (SV40) and the putative E1 proteins of papillomaviruses. The region of highest homology with the papovavirus proteins corresponds to the region that is most highly conserved in the NS1 proteins of several other parvoviruses. Studies with the T antigen of both polyomaviruses and SV40 have implicated this region as having an ATPase activity and nucleotide-binding function.
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$1.70 39 Types
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$5.18 Estimated total session cost 0.116 Hrs.

File 351:DERWENT WPI 1981-1996/UD=9648;UA=9645;UM=9637
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S2 135 PARVO?
30 S1
135 S2
S3 15 S1 AND S2
?◂t s1/7/16-19 21

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DIALOG(R)File 351:DERWENT WPI
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009392393 WPI Acc No: 93-085872/10
Related WPI Accession(s): 89-241647; 93-008905
XRAM Acc No: C93-037862
Non-infections parvovirus capsid prodn. - useful as a vaccine, for diagnosis and for packaging and delivering genetic material to cells
Patent Assignee: (USSH) US DEPT HEALTH & HUMAN SERVICES; (USSH) US DEPT HEALTH & HUMAN SERVICE
Author (Inventor): KAJIGAYA S; SHIMADA T; YOUNG N S
Number of Patents: 002
Number of Countries: 001
Patent Family:

CC Number	Kind	Date	Week	
US 7843067	A	930101	9310	(Basic)
US 5508186	A	960416	9621	

Priority Data (CC No Date): US 843067 (920302); US 270098 (881114); US 612672 (901114)
Applications (CC,No,Date): US 270098 (881114); US 612672 (901114)
Abstract (Basic): US 7843067 A

Non-infectious parvovirus capsids (I) are provided.

Also provided are methods of: (1) producing large quantities of parvovirus antigens; (2) effecting the expression of parvovirus structural proteins in cell culture; (3) producing antibodies against parvovirus capsid proteins.

A recombinant baculovirus (II) comprising a DNA segment encoding a minor structural protein of a parvovirus and a recombinant baculovirus ((II) comprising a DNA segment encoding a major structural protein of a parvovirus, are provided.)

USE/ADVANTAGE - (I) are useful as a vaccine against parvoviral infection; for detecting the presence of parvoviral antibodies in a biological sample; and for packaging and delivering genetic material to the genome of a cell, i.e. as a platform for protein delivery, vaccine reagents, cell-specific ligands and enzymes.

Capsids expressing multiple epitopes, e.g. pertussis and B19 and diphtheria, can be generated using multiple recombinant minor structural protein genes. The use of such capsids in vaccines eliminates the use of live vaccine and related complications. Genetic material suitable for delivery by (I) includes genes encoding proteins useful in the treatment of genetic defects, e.g. haemoglobinopathies and enzyme deficiency states. (I) can also be used in vitro, e.g. in immunoassays for the detection of antibodies to various proteins. The antibodies can be used for antigen detection in diagnosi Dwg.0/9

Abstract (US): 9621 US 5508186 A

A new isolated empty B19 parvovirus capsid.

Dwg.0/14

Derwent Class: B04; D16;

Int Pat Class: A61K-039/23; C12N-000/00; C12N-007/00; C12N-007/04; C12Q-001/70

Derwent Registry Numbers: 1732-U

1/7/17

DIALOG(R)File 351:DERWENT WPI

008742407 WPI Acc No: 91-246423/34

XRAM Acc No: C91-106989

Immunologically active parvo virus B19 peptide(s) - comprising capsid protein VP1 or VP2 fragments, useful for antibody detection or vaccination

Patent Assignee: (MIKR-) MIKROGEN MOLEKULARB; (MIKR-) MIKROGEN MOLEKULARBIOLOGISCHE

Author (Inventor): MOTZ M; SOUTSCHEK E

Number of Patents: 010

Number of Countries: 018

Patent Family:

CC Number	Kind	Date	Week	
DE 4003826	A	910814	9134	(Basic)
WO 9112269	A	910822	9136	
AU 9172115	A	910903	9148	
EP 514413	A1	921125	9248	
JP 5504143	W	930701	9331	
EP 514413	B1	940504	9418	
DE 59101577	G	940609	9424	
ES 2052370	T3	940701	9429	
AU 650864	B	940707	9431	
DE 4003826	C2	951123	9551	

Priority Data (CC No Date): DE 4003826 (900208)

Applications (CC,No,Date): DE 4003826 (900208); EP 91903270 (910208); WO 91DE106 (910208); JP 91503659 (910208); WO 91DE106 (910208); EP 91903270 (910208); WO 91DE106 (910208); DE 501577 (910208); EP 91903270 (910208); WO 91DE106 (910208); EP 91903270 (910208); AU 9172115 (910208)

Language: German
EP and/or WO Cited Patents: 4.Jnl.Ref; WO 8802026
Designated States
(National): AU; CA; JP; US
(Regional): AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LU; NL; SE; LI
Filing Details: EP0514413 Based on WO 9112269; JP05504143 Based on WO 9112269; EP0514413 Based on WO 9112269; DE59101577 Based on EP 514413; DE59101577 Based on WO 9112269; ES2052370 Based on EP 514413; AU0650864 Previous Publ. AU 9172115; AU0650864 Based on WO 9112269

Abstract (Basic): DE 4003826

New immunologically active peptides (I) comprise part of the amino acid sequence of capsid protein VP1 or VP2 of parvo virus B19 and are free of impurities that could interfere with the detection of B19-specific antibodies.

DNA sequences (II)-(VI) are used (as primers) for the direct detection of (the parvo virus B19) pathogen by DNA amplification, esp. by PCR.

USE - (I) are useful as immunoassay reagents for detection of anti-B19 antibodies, e.g. for diagnosis of B19 infections, determining the immune status of pregnant women, heating stored blood, or selecting positive donors for prodn. of B19 hyperimmune globulin prepns. Vaccines against B19 infections, comprising (I) and adjuvants, are also disclosed. @(21pp Dwg.No.0/0)@

Abstract (EP): 9418 EP 514413 B

Immunologically active peptide or polypeptide which has a part of the amino-acid sequence of the capsid proteins VP1 or VP2 of parvovirus B19, characterised in that it is free of impurities which may interfere with the detection of parvovirus B19 specific antibodies, and the polypeptide which is a partial sequence of 8 to 50 amino-acid residues, particularly 10 to 32 amino-acid residues of the peptide PAN1 as depicted in Fig. 2-1, or has the amino-acid sequence, e.g., Asn Pro Tyr Thr His Trp Thr Val Ala Asp Glu Glu Leu Leu Lys His Ile Lys and/or Ser Lys Lys Ser Gly Lys Trp Trp Glu Ser Asp Asp Lys Phe Ala Lys Ala Val Tyr and/or Leu Lys Asp His Tyr Asn Ile Ser Leu Asp Asn Pro Leu Glu Asn Pro Ser Ser and/or Ile Lys Asn Asn Leu Lys Asn Ser Pro Asp Leu Tyr Ser His His Phe Gln Ser His Gly Gln Leu Ser Asp His Pro His Ala and/or Ser Ser His Ala Glu Pro Arg Gly Glu Asn Ala Val Leu Ser Set Glu Asp Leu His Lys Pro Gly Gln Val and/or Asn Tyr Val Gly Pro Gly Asn Glu Leu Gln Ala Gly Pro Pro Gln Ser Ala Val Asp Ser Ala Ala Arg Ile His Asp Phe Arg Tyr Ser Gln Leu and/or Pro Tyr Thr His Trp Thr Val Ala Asp Glu Glu Leu Leu Lys Asn Ile Lys Asn Glu Thr Gly Phe and/or Asn Ala Ser Glu Lys Tyr Pro Ser Met Thr Ser Val Asn Ser Ala Glu Ala Ser.

Dwg.0/0

Abstract (DE): 9551 DE 4003826 C

Peptides of the capsid proteins VP1 or VP2 or the parvovirus B19 comprise 17 specifically claimed amino acid sequences of which 9 are long ones consisting of 210, 163, 96, 73, 250, 160, 235, 264 and 227 amino acids respectively and 8 short sequences of 18, 19, 18, 28, 24, 32, 22 and 18 amino acids, e.g. (a) Asn Pro Tyr Thr His Trp Thr Val Ala Asp Glu Glu Leu Leu Lys His Ile Lys; (b) Pro Tyr Thr His Trp Thr Val

Ala Asp Glu Glu Leu Leu Lys Asn Ile Lys Asn Glu Thr Gly Phe. The fusion proteins of these sequences with beta-galactosidase or the glutathione-S-transferase are included.

The immunologically active peptides are pref. purified by (A) removing insolubles, (B) sepn. by a DEAE sephacell column, (C) further purification by an anion exchange column using HPLC in 8M urea pref. as well as (D) an affinity chromatography using a gel matrix coupled with glutathione.

USE - As vaccines against infection by parvovirus B19. In diagnostic test kits for the detection of antibodies against human parvovirus B19, esp. in sera.

ADVANTAGE - The peptides are free from impurities interfering with the detection of antibodies directed against parvovirus B19. The peptides can be prepared synthetically or by gene technology, esp. the short ones synthetically and the long ones by gene technology. Dwg.0/0

Derwent Class: B04; D16;

Int Pat Class: A61K-038/16; A61K-039/23; C07K-001/14; C07K-003/18; C07K-003/20; C07K-003/22; C07K-007/06; C07K-007/08; C07K-007/10; C07K-013/00; C07K-014/015; C12N-015/10; C12N-015/35; C12Q-001/68; G01N-033/56; G01N-033/569; G01N-033/68

1/7/18

DIALOG(R)File 351:DERWENT WPI

008668086 WPI Acc No: 91-172107/24

XRAM Acc No: C91-074383

XRPX Acc No: N91-131831

Diagnosis and prevention of human parvovirus B19 infection - using synthetic penta- and higher peptide(s) and antibodies

Patent Assignee: (BIOC-) BIOCHROM BETEILGUNG

Author (Inventor): FRENZEL B; RONSPECK W

Number of Patents: 001

Number of Countries: 001

Patent Family:

CC Number	Kind	Date	Week	
DE 3939470	A	910606	9124	(Basic)

Priority Data (CC No Date): DE 3939470 (891129)

Filing Details: DE3939470

Abstract (Basic): DE 3939470 A

Diagnosis of human parvovirus B19 infection is carried out using a serologically active epitope in the form of a synthetic peptide. The diagnostic method uses antibodies to regions localised in the 'left hand orf' or 'right hand orf' of the B19 virus.

The synthetic peptide preferably corresponds to the 'right hand orf' epitope. It comprises at least a five amino acid sequence from a number of specified sequences, including: Phe-Ala-Lys-Ala -Val-Thy-Gln-Gln-Phe -Val-Glu-Phe-Tyr-Glu -Lys-Val-Thr-Gly -Thr-Asp-Leu -Glu-Leu-Ile-Gln -Ile-Leu-Lys-Asp -His-Tyr-Asn-Ile -Ser-Leu-Asp.

A vaccine containing one or more of the peptides and a carrier is also claimed.

USE/ADVANTAGE - B19 virus causes infection associated with erythema infectiosum. After developing erythema infectiosum (fifth disease), antibodies to B19 are found in the blood. B19 appears to be associated with polyarthritis, aplastic crisis, Schonlein-Henoch purpura, and embryo pathologies and non-immune hydrops foetalis. The antibodies and peptides are therefore useful for the study of the virus infection, for prevention by immunisation and for diagnosis of the disease. @(5pp Dwg.No.0/0)@

Derwent Class: B04; D16; S03; R16;
Int Pat Class: A61K-039/12; A61K-049/00; C07K-007/10; G01N-033/68

1/7/19
DIALOG(R)File 351:DERWENT WPI

008613489 WPI Acc No: 91-117519/16
XRAM Acc No: C91-050595
XRPX Acc No: N91-090443 *Image available*
Human parvovirus B19 protein VP1 and VP2 virus like particles - for use in diagnosis of vaccines
Patent Assignee: (UYLE-) RIJKSUNIV LEIDEN
Author (Inventor): BROWN C S
Number of Patents: 006
Number of Countries: 014
Patent Family:

CC Number	Kind	Date	Week	
WO 9104330	A	910404	9116	(Basic)
NL 8902301	A	910402	9117	
EP 491824	A1	920701	9227	
EP 491824	B1	950510	9523	
DE 69019359	E	950614	9529	
ES 2073036	T3	950801	9537	

Priority Data (CC No Date): NL 892301 (890914)
Applications (CC,No,Date): EP 90914243 (900911); EP 90914243 (900911); WO 90NL130 (900911); EP 90914243 (900911); WO 90NL130 (900911); DE 619359 (900911); EP 90914243 (900911); WO 90NL130 (900911)
Language: English
EP and/or WO Cited Patents: 2.Jnl.Ref; EP 341611
Designated States
(National): US
(Regional): AT; BE; CH; DE; DK; ES; FR; GB; IT; LU; NL; SE; LI
Filing Details: ES2073036 Based on EP 491824; EP0491824 Based on WO 9104330; EP0491824 Based on WO 9104330; DE69019359 Based on EP 491824; DE69019359 Based on WO 9104330
Abstract (Basic): WO 9104330

The following are claimed: (1) Recombinant VP1 and VP2 proteins of the human parvovirus B19. (2) Spodoptera frugiperda cells transformed

with baculo-virus expression vector containing the necessary genetic information. (3) Production of the VP1 and VP2 protein by culturing the transformed cells.

(4) Recombinant baculovirus expression vectors pAcB19VP1TM1, AcB19VP1L, pAcB19VP2YM2 and AcB19VP2L. (5) use of the VP1 and VP2 proteins for detecting antibodies against B19 virus protein VP1 and VP2 and for inducing an immune response against human parvovirus B19. (6) A vaccine against human parvovirus B19.

USE/ADVANTAGE - The proteins may be used for diagnosis of human parvovirus and in vaccines. @(26pp Dwg.No.0/1)@

Abstract (EP): 9523 EP 491824 B

Recombinant baculovirus expression vector, equipped with the genetic information which is necessary for expression of VP1 protein of the human parovirus B19 in Spodoptera frugiperda cells. Dwg.0/1

Derwent Class: B04; D16;

Int Pat Class: A61K-039/23; A61K-039/295; C07K-015/02; C12N-005/10; C12N-015/35; C12N-015/86; C12P-021/02; G01N-033/56; G01N-033/569

1/7/21

DIALOG(R)File 351:DERWENT WPI

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008474424 WPI Acc No: 90-361424/48

XRAM Acc No: C90-157061

XRPX Acc No: N90-275783 *Image available*

New artificial peptide - has sequence corresp. to human parvovirus and disulphide bridge, useful for immunisation and diagnosis

Patent Assignee: (FERR) FERRING DIAGNOSTICA AB; (FERR) FERRING DIAGNOSTICA

Author (Inventor): TROJNAR J; WAHREN B; FRIDELL E

Number of Patents: 004

Number of Countries: 020

Patent Family:

CC Number	Kind	Date	Week	
WO 9013567	A	901115	9048	(Basic)
AU 9055596	A	901129	9109	
EP 470205	A	920212	9207	
AU 636145	B	930422	9323	

Priority Data (CC No Date): SE 891566 (890428)

Applications (CC,No,Date): AU 9055596 (900425); EP 90908131 (900425)

Language: English

EP and/or WO Cited Patents: 4.Jnl.Ref; EP 117063; EP 238893

Designated States

(National): AU; CA; FI; JP; KR; NO; US

(Regional): AT; BE; CH; DE; DK; ES; FR; GB; IT; LU; NL; SE; LI

Filing Details: AU0636145 Previous Publ. AU 9055596; AU0636145 Based on WO 9013567

Abstract (Basic): WO 9013567

Artifical peptide has an amino acid sequence which corresponds to

a naturally occurring amino acid sequence of a human parvovirus comprising an epitope, with 2 cysteine residues on each side of the epitope, and has a sulphur bridge between the cysteines which are formed by chemical oxidation. A 24-amino acid peptide sequence of formula (I), a shorter part of the sequence and modified sequences are (I). Artificial antigens reacting with human parvovirus consisting of the peptide are claimed, as are methods of detecting antibodies, diagnostic immunoassay kits and a vaccine composition.

USE/ADVANTAGE - Rapid, sensitive and specific assay for detection of antibodies induced by a human parvovirus.

In an example: antibodies to human parvovirus B19 in blood samples were detected using ELISA. The peptide gave absorbence values of 1.55 +/- 0.45 for serum samples from 10 seropositive persons, and 0.30 +/- 0.15 on serum samples from 9 seronegative persons. @(19pp Dwg.No.0/0)@

Derwent Class: B04; D16; S03; R16;

Int Pat Class: A61K-039/23; C07K-007/06; C07K-007/08; C07K-007/10; C07K-017/08; G01N-033/56; G01N-033/68

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$30.73 Estimated total session cost 0.183 Hrs.
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